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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,724	04/02/2004	David Mottier	250365US2	9466

22850 7590 11/23/2007

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EXAMINER	
LAM, KENNETH T	

ART UNIT	PAPER NUMBER
2611	

NOTIFICATION DATE	DELIVERY MODE
11/23/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/815,724	MOTTIER ET AL.	
	Examiner	Art Unit	
	Kenneth Lam	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 11/08/2007.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1 and 3-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1 and 3-12 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> The factual inquiries set forth in **Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)**, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: ***(See MPEP Ch. 2141)***
>
> a. Determining the scope and contents of the prior art;
> b. Ascertaining the differences between the prior art and the claims in issue;
> *c.* Resolving the level of ordinary skill in the pertinent art; and
> *d.* Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

3. Claims 1 and 3-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agee (US 2003/0123384 A1) in view of Banerjee (US 7,286,593 B1).

Re Claims 1, 7 and 8, Agee discloses a method and apparatus for transmitting data in a telecommunication system that includes at least a first transceiver (base **11**, Figure 1) and a second transceiver (remote **17**, Figure 1) linked together by means of at

least one communication channel, at least one of the transceivers being mobile, the method comprising:

spreading said data over a plurality of components (spread transmit data, Figure 8); and

an equalization step of multiplying the components resulting from the spreading step by a corresponding predetermined equalization value representative of communication conditions within the communication channel (delay, Doppler preemphasis **280**, delay Doppler estimator **273**, delay, Doppler equalize **274**, Figure 9, the multiplication of spreading code after the multiplication of the equalization coefficient is functional equivalent to the multiplication of coefficient after spreading code), except detail disclosure of the equalization equations.

However, Banerjee discloses a system and method for channel estimation for determining channel weighting coefficients, wherein at least one predetermined equalization value is determined so as to account for a Doppler effect resulting from a movement of the mobile transceiver (abstract, column 6 lines 21-30), which adversely affects the communication conditions within the communication channel, wherein each predetermined equalization value (column 7 lines 53-62) is calculated using an equation (column 8 line 20) that includes a parameter representative of a noise level in said communication channel and an additional noise parameter representative of said Doppler effect (column 7 line 9 – column 8 line 49).

Therefore, it would be obvious to one skilled in the art at the time the invention was made to utilize the channel estimation as taught by Banerjee with the

communication system as taught by Agee to further improve the performance of channel estimator to compensate Doppler effect and improve SIR level.

Re Claims 3 and 9, the combined teachings discloses the method and apparatus as claimed in claim 1 and claim 7, wherein Agee teaches the communication conditions within the communication channel are modeled by means of a study of the effects of said conditions on at least one incoming signal previously received by the mobile transceiver through said communication channel ([0119]-[0124]), except the disclosure of detail noise parameter.

However, Banerjee discloses the additional noise parameter representative of said Doppler effect includes a variance that increases with an amount of time elapsed since said incoming signal has been received by the mobile transceiver (column 7 line 53 – column 8 line 49, column 10 lines 1-63).

Therefore, it would be obvious to one skilled in the art at the time the invention was made to utilize the channel estimation as taught by Banerjee with the communication system as taught by Agee to further improve the performance of channel estimator to compensate Doppler effect and improve SIR level.

Re Claims 4 and 10, the combined teachings discloses the method and apparatus as claimed in claim 1 and claim 7, wherein Agee teaches the communication conditions within the communication channel are modeled by means of a study of the effects of said conditions on at least one incoming signal previously received by the

mobile transceiver through said communication channel ([0119]-[0124]), except the disclosure of detail constant variance.

the additional noise parameter representative of said Doppler effect includes a constant variance whose value has been averaged over a time interval between two successive incoming signals (column 7 line 53 – column 8 line 49, column 10 lines 1-63).

Therefore, it would be obvious to one skilled in the art at the time the invention was made to utilize the channel estimation as taught by Banerjee with the communication system as taught by Agee to further improve the performance of channel estimator to compensate Doppler effect and improve SIR level.

Re Claims 5 and 11, the combined teachings discloses the method and apparatus as claimed in claim 1 and claim 7, wherein Agee teaches the equalization step is performed by the mobile transceiver on components of a signal to be transmitted by said mobile transceiver ([0104]-[0106], Figure 9).

Re Claims 6 and 12, the combined teachings discloses the method and apparatus as claimed in claim 1 and claim 7, wherein Agee teaches the equalization step is performed by the mobile transceiver on components of a signal received by said mobile transceiver ([0104]-[0106], Figure 9).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Ostberg et al., US 6,542,562 B1

  Approximated MMSE-Based Channel Estimator in a Mobile Communication System

- Qiu, US 6,785,351 B1

  Method and System for Doppler Frequency Estimation

- Thomson, US 2003/0236072 A1

  Method and Apparatus for Estimating a Channel Based on Channel Statistics

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Lam whose telephone number is (571) 270-1862. The examiner can normally be reached on Mon - Thu 7:30 am - 5:00 pm EST ALT Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KENNETH LAM/
11/19/2007

SHUWANG LIU
SUPERVISORY PATENT EXAMINER